Pemodelan intrusi air asin pada akuifer pantai (studi kasus DKI Jakarta)

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Abstrak

ABSTRAK
Main issues frequently faced by communities living in the city of Jakarta is salt water intrusion. This paper analyzes the extent of the distribution of saltwater contamination to coastal aquifers in Jakarta, the method used is the open source program FREEWAT. modeling is carried out in five scenarios, namely (1) reduction of 50% of groundwater use, (2) reduction of 25% of groundwater use, (3) existing groundwater use in 2012, (4) increase of 25% of groundwater use, and (5) increase of 50% of groundwater use. From the modeling results, the distribution of saltwater contamination on each layer of the aquifer of Jakarta. In unconfined aquifer the existing condition is scenario 3 intrusion as far as 1.604 m, on scenario 1 there is an intrusion decrease of 38%, in scenario 2 there is an intrusion decrease of 13%, in scenario 4 there is an increase in intrusion by 17% and on scenario 5 increase intrusion by 25%. In upper confined aquifer, the existing condition, namely scenario 3, has occurred as much as 1.809 m intrusion, in scenario 1 there is an intrusion decrease of 23%, in scenario 2 there is an intrusion decrease of 8%, in scenario 4 there is an increase in intrusion by 19% and in scenario 5 increase intrusion by 26%. In middle confined aquifer, the existing condition is scenario 3, 1.927 m intrusion occurs, on the scenario 1 there is an intrusion decrease of 23%, in scenario 2 there is an intrusion decrease of 9%, in scenario 4 there is an increase in intrusion by 16% and in the scenario 5 increase intrusion by 22%.